



*Solutions for*  
**RECYCLING**

 **Bonfiglioli**





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# Engineering Sustainability



[WWW.BONFIGLIOLI.COM](http://WWW.BONFIGLIOLI.COM)

# RECYCLING



## THE WIDEST RANGE OF SOLUTIONS FOR RECYCLING PROCESSING AND MACHINERY

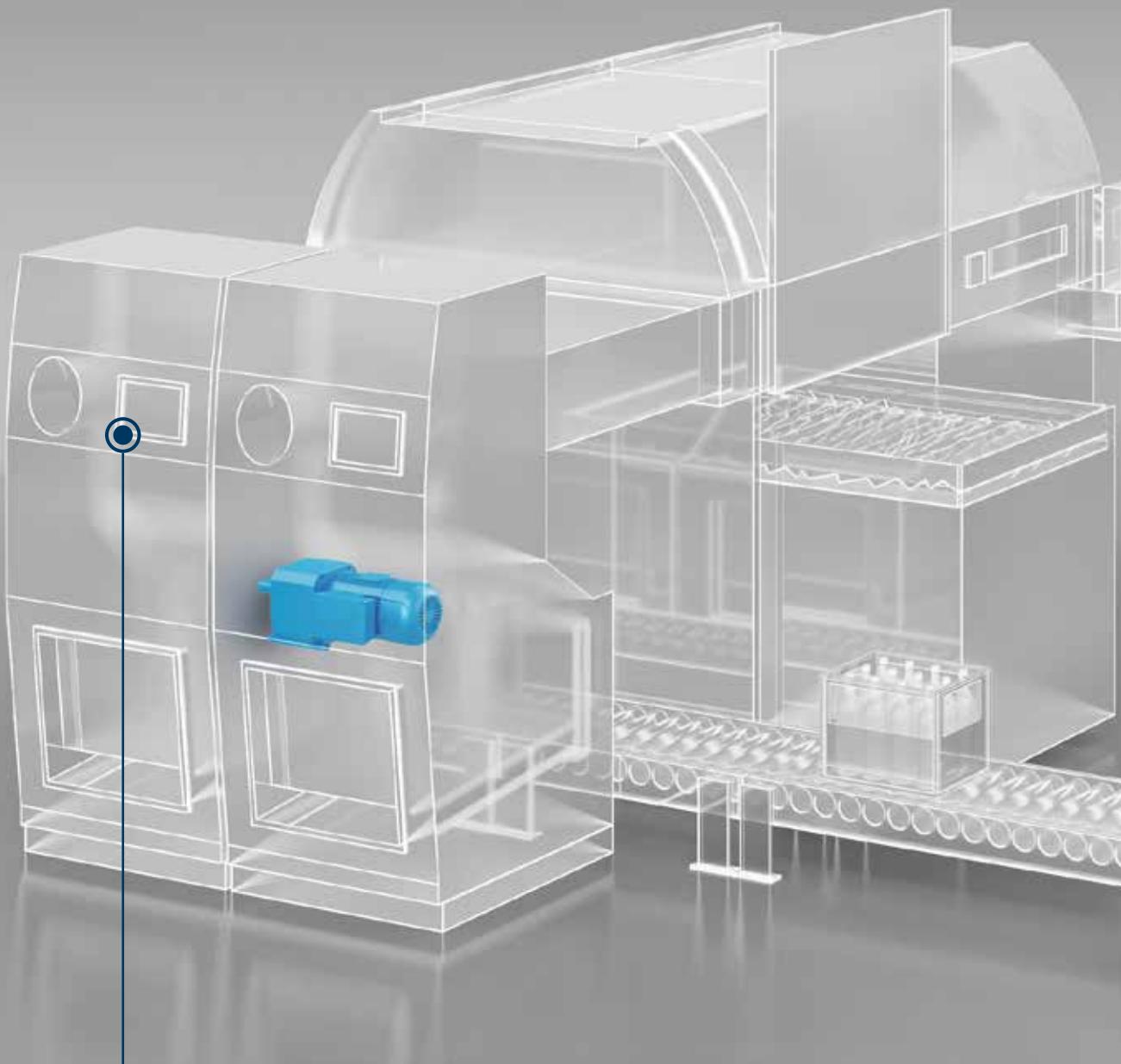
Bonfiglioli conceives, designs and produces custom solutions for collection, downsizing and sorting of waste materials. Recycling is a key component of waste management to reduce pollution and landfill waste.

Our wide product portfolio includes planetary gearboxes, motors and frequency inverters designed according to our customers' specific requirements.

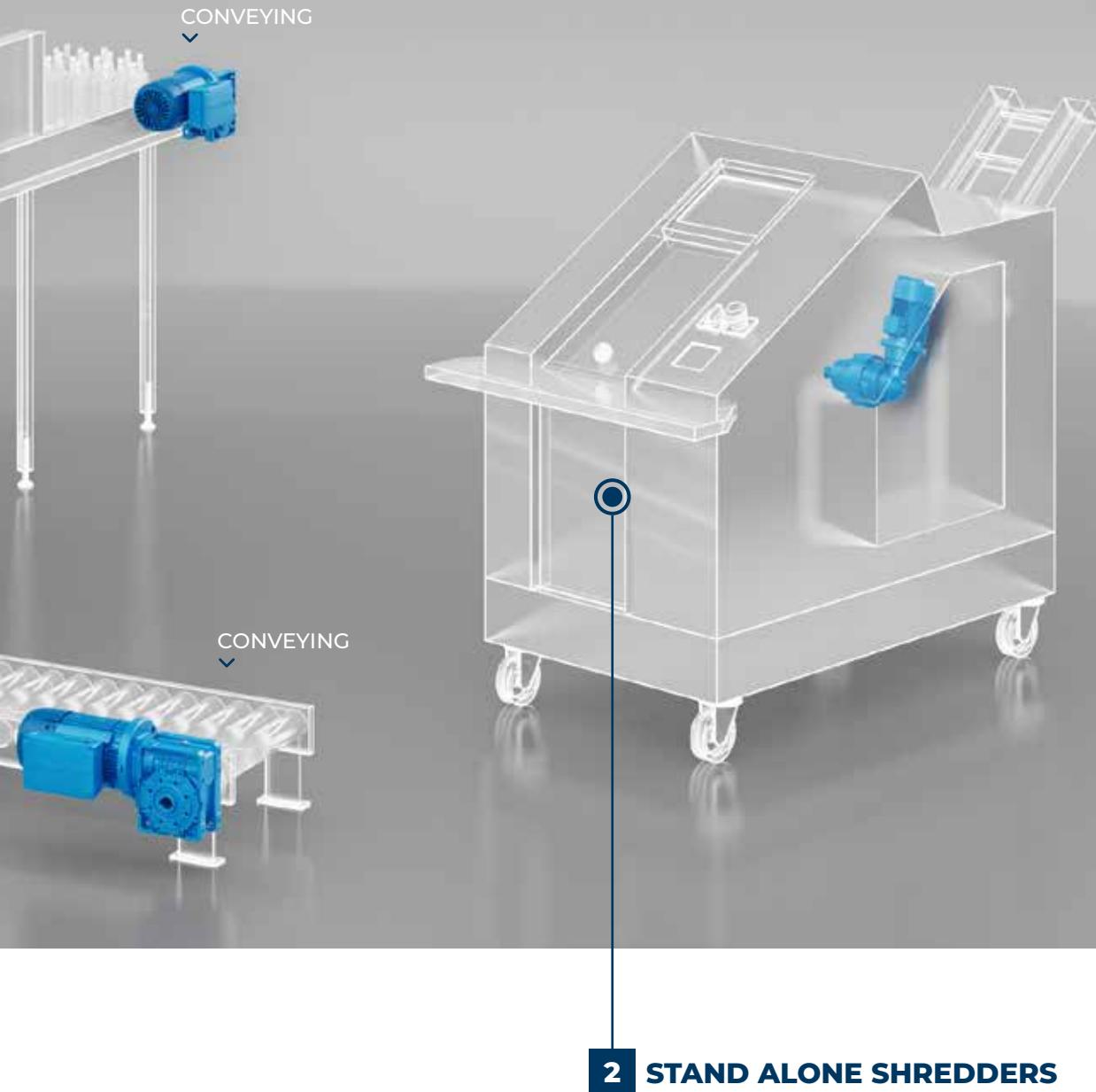
These solutions are developed with the highest level customization, which requires, right from the initial design phases, in-depth interaction between the customer and Bonfiglioli's team, to ensure that all the required specifications and variants are known, and obtain a product that perfectly meets expectations.

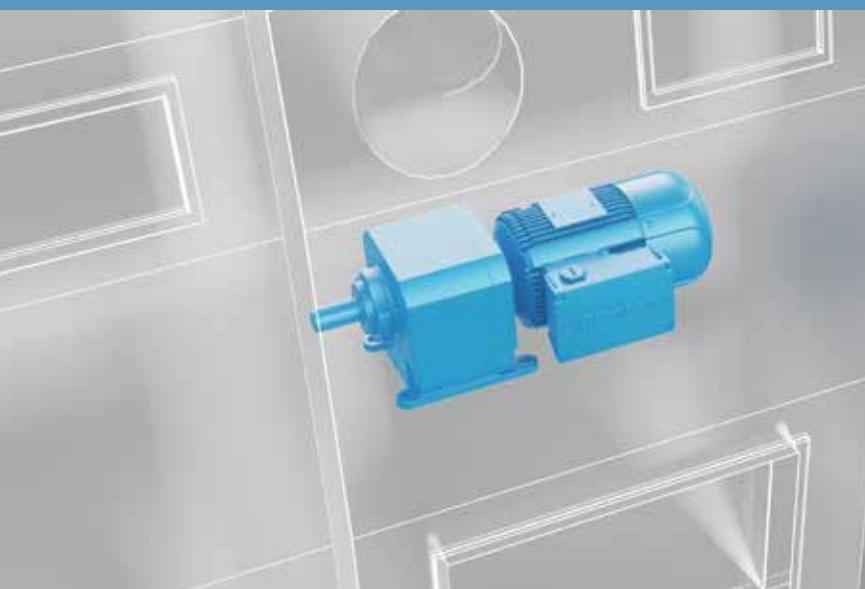
This is why our pre-sales and after-sales teams - spread strategically over all continents - play such a crucial role, and why ensuring complete support is at the heart of our global success.





**1 REVERSE VENDING MACHINE  
(SHREDDING OR COMPACTOR)**





1

## REVERSE VENDING MACHINE

(SHREDDING OR COMPACTOR)



High reliability and long operating life are the basic features that our products offer for standalone recycling machines.

And full integration with Bonfiglioli drives offers a complete package solution.



### EVOX CP series

Helical in-line gearbox and geared motor

#### BENEFITS

- Compact gearmotor design
- High shock load resistance
- One-stop-shop for complete drive solutions
- Wash down capability



### W series

Universal worm geared motor

- Quiet operation
- Compact gearmotor design
- Universal mounting



### Agile series

Smart inverter

- Smooth start
- Feed roll control
- Low energy consumption

#### FEATURES

- Surface protection
- Universal motor voltage (BXN/MXN)
- High and premium efficiency motors (IE2, IE3)
- Protection rating up to IP56
- Total quality inspection certificate

- Lightweight gearbox
- Universal motor voltage (BXN/MXN)
- High and premium efficiency motors (IE2, IE3)
- Total quality inspection certificate

- Series optionally extendable for field bus communication
- Sensorless synchronous and asynchronous motor control
- Modbus and Systembus onboard
- DC link connection
- Integrated brake chopper
- Power failure management
- Programmable PI controller
- Integrated VPLC
- Electronic gear via analogue wire or Systembus
- Integrated Safe Torque Off STO (SIL 2 / PL d) function
- Energy saving function
- Smart current limits
- Output frequency 0...599 Hz, higher frequencies on request
- Diagnosis and setup via integrated keypad and integrated service interface for PC connection



2

## STAND ALONE SHREDDER



High reliability and long operating life are the basic features that our products offer for standalone recycling machines. And full integration with Bonfiglioli drives offers a complete package solution.



### 300M series

Planetary gearbox and geared motor

#### BENEFITS

- High shock load resistance
- Compact design
- One-stop-shop for complete drive solutions
- Wash down capability



### Agile series

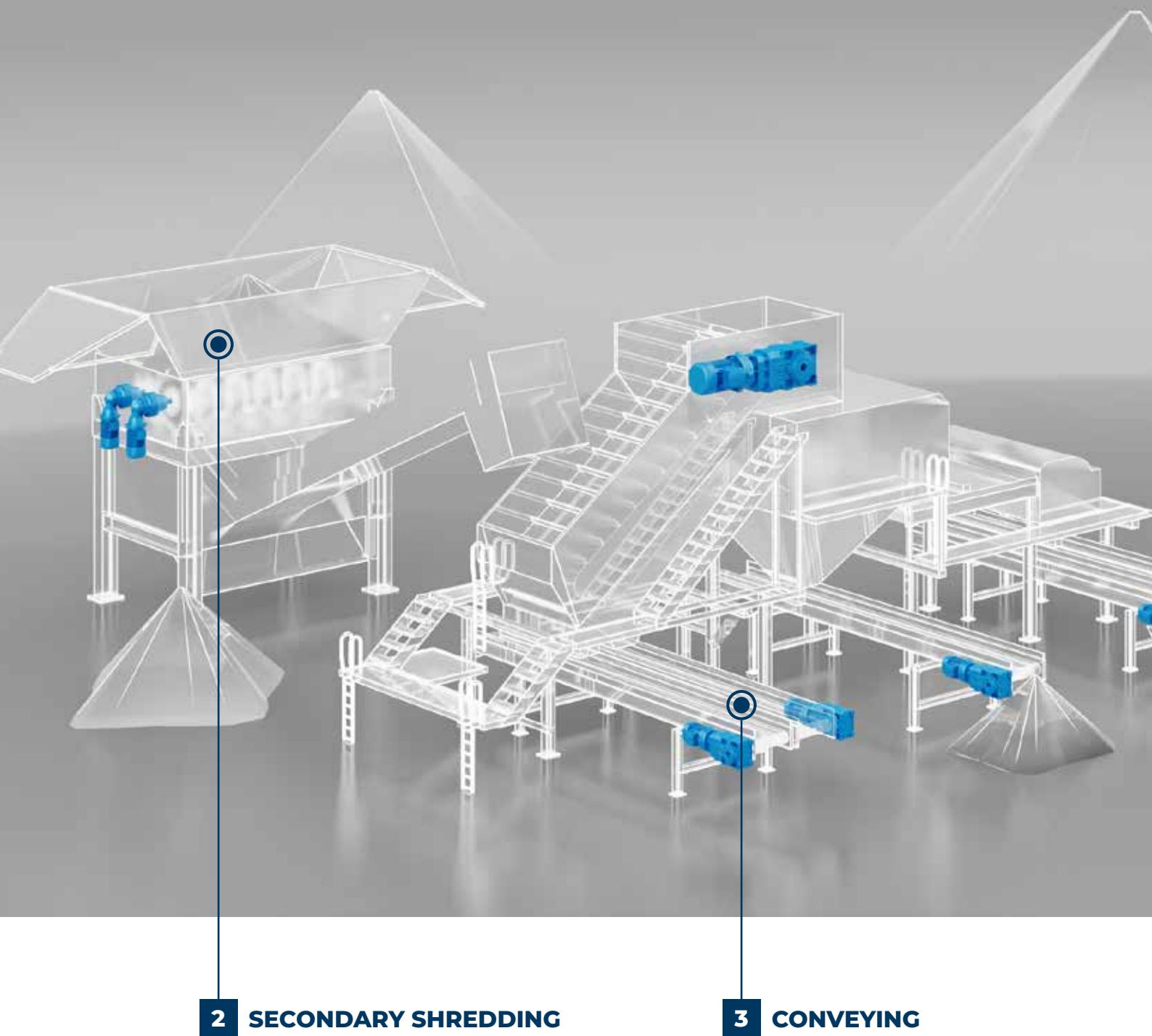
Smart inverter

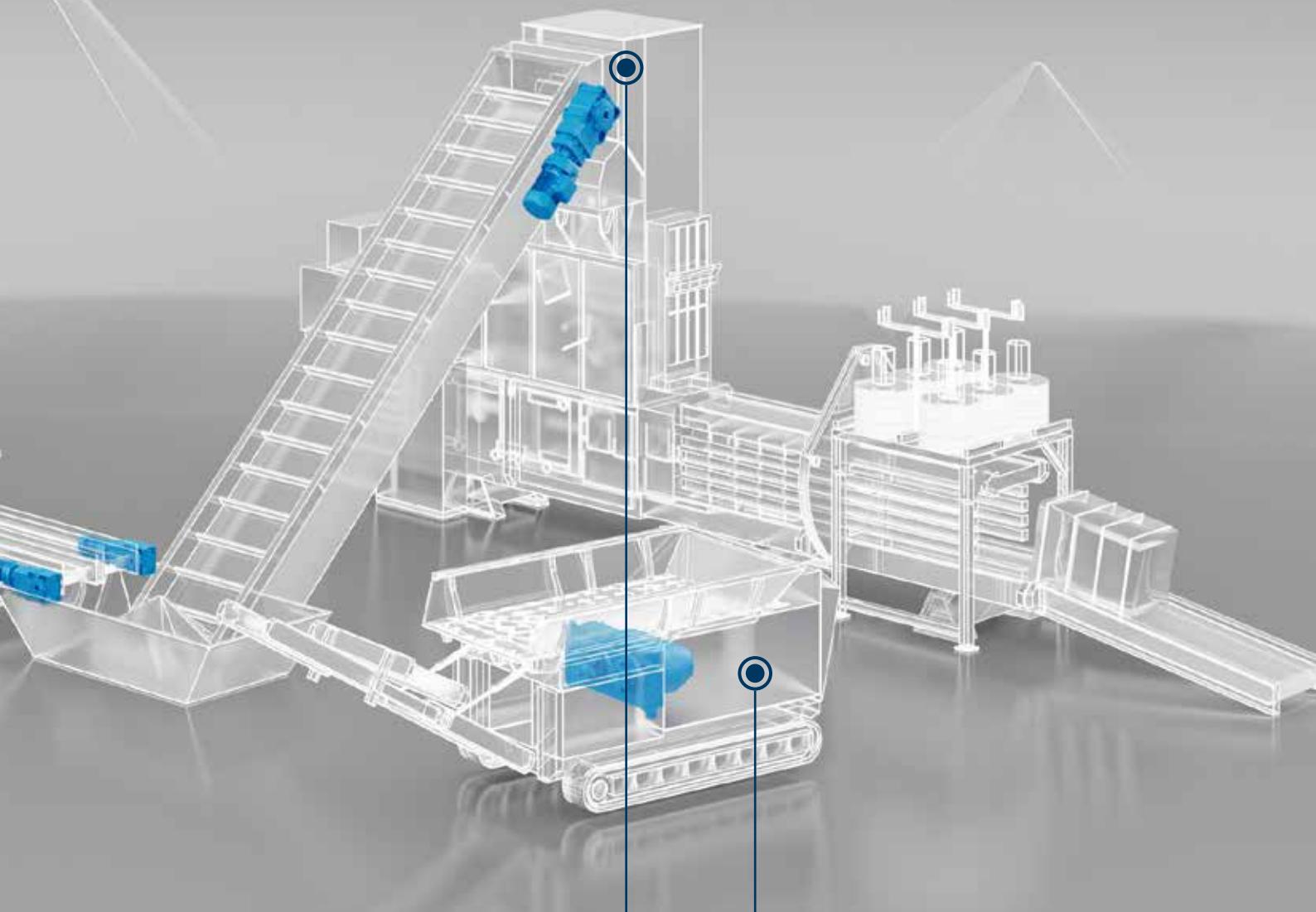
#### FEATURES

- High and premium efficiency motors (IE2, IE3)
- Protection rating up to IP56
- Thermal protection (bi-metallic, PTC or KTY)
- Anti-condensation heaters
- Total quality inspection certificate

- Series optionally extendable for field bus communication
- Sensorless synchronous and asynchronous motor control
- Modbus and Systembus onboard
- DC link connection
- Integrated brake chopper
- Power failure management
- Programmable PI controller
- Integrated VPLC
- Electronic gear via analogue wire or Systembus

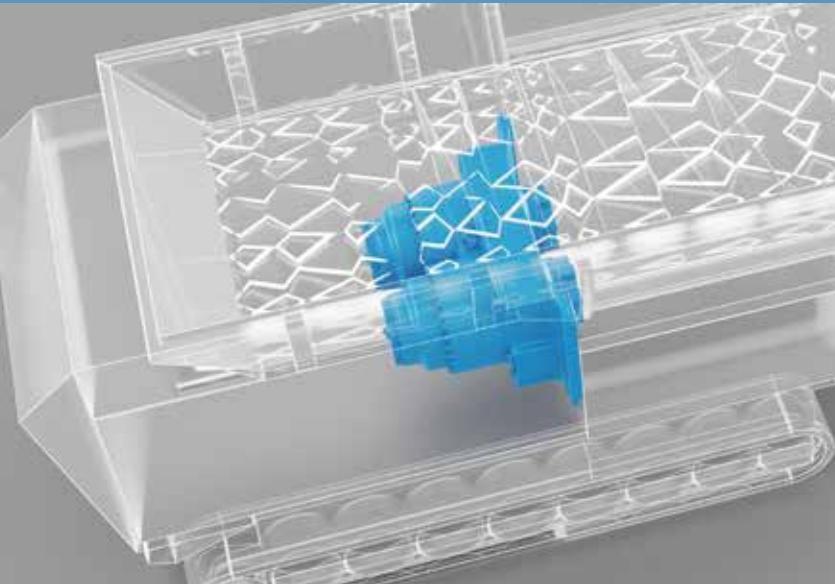
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**1 PRIMARY SHREDDING**

**4 COMPACTORS**



1

## PRIMARY SHREDDING

Totally integrated machine design and performance are the key features that our planetary products offer for primary shredding equipment. Bonfiglioli can boast a long experience with all OEM WW leaders. Its dedicated factory provides premium services worldwide.



### R3 series

Double planetary gearbox

#### BENEFITS

- Easy installation
- Quiet operation
- High torque capabilities



### Active Cube series

Premium inverter

- Synchronous and asynchronous motor control with or without encoder
- Electronic block detection
- Maximum torque for the entire speed range
- Boost of cinematic energy by speed increase
- 400kW single device with 180% overload
- Air- and water-cooled
- Cabinet solution available

#### FEATURES

- Class C3, C4 and C5 surface protection (according to standard UNI EN ISO 12944-2)
- Peak torque from 80,000 to 129,000 Nm
- Gear ratios from 92 to 115
- Shamrock output, output shaft: flanged output shaft
- Flanged axial piston hydraulic motors
- Axial piston hydraulic motors
- Synchro drive

- Series optionally extendable for field bus communication and encoder evaluation
- Plug-in power terminals (up to 3kW)
- Plug-in and programmable control terminals
- DC link connection
- Integrated brake chopper
- Positioning function via field bus (motion control compatible to CiA DS402)

- Integrated VPLC
- Electronic gear in speed or position control
- Power failure management
- Integrated Safe Torque Off STO (SIL 3 / PL e) function
- Output frequency 0...599 Hz, higher frequencies on request
- Diagnosis and setup via optional keypad or PC software



2

## SECONDARY SHREDDING

Planetary rating torque over 2 MioNm guarantees a complete range of shredding machine applications. Thanks to their high peak load capacity, our planetary gears are the best in class in terms of mechanical performances. And full integration with Bonfiglioli drives offers a complete package solution.



### 300M series

Planetary gearbox and geared motor

#### BENEFITS

- High shock load resistance
- Compact design
- One-stop-shop for complete drive solutions
- Reliable and customized solution for extreme low temperature working conditions
- Wash down capability

#### FEATURES

- High and premium efficiency motors (IE2, IE3)
- Protection rating up to IP56
- Thermal protection (bi-metallic, PTC or KTY)
- Anti-condensation heaters
- Total quality inspection certificate



### HDO series

Helical in-line gearbox and geared motor

- High torque capabilities
- High shock load resistance
- Superior mechanical performances

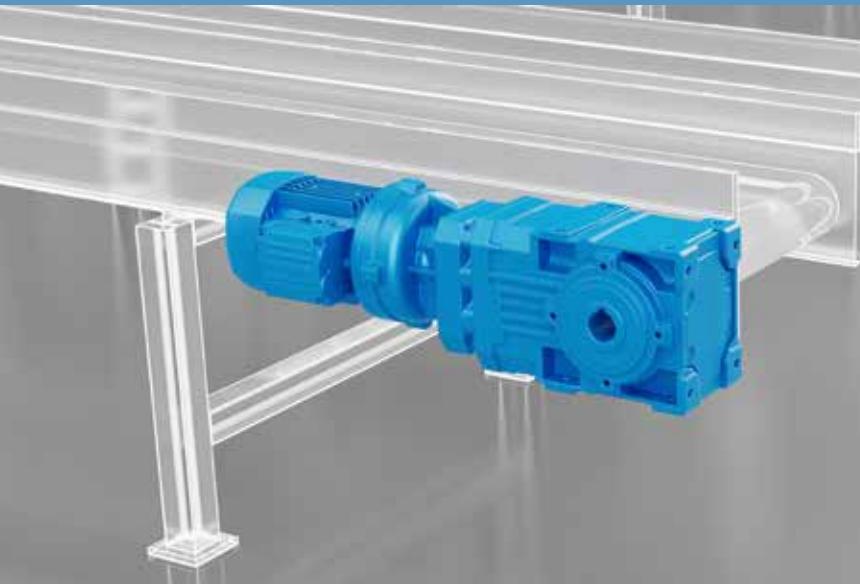


### Active Cube series

Premium inverter

- Cabinet solution up to 1,200kW
- Reversing in case of block detection
- Reduction of starting current and energy provision

- Series optionally extendable for field bus communication and encoder evaluation
- Plug-in power terminals (up to 3kW)
- Plug-in and programmable control terminals
- DC link connection
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- Electronic gear in speed or position control
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- Output frequency 0...599 Hz, higher frequencies on request
- Diagnosis and setup via optional keypad or PC software



3

## CONVEYING

Thanks to the extensive selection of features and space efficiency, we can offer specific products based on the conveying systems.

High dynamic response and energy savings are fundamental features when you choose Bonfiglioli. Furthermore, the cost effective and extended service intervals reward a very low cost of ownership.

And full integration with Bonfiglioli drives offers a complete package solution.



### A series

Helical bevel gearmotors

#### BENEFITS

- Compact
- Universal mounting
- Modular design
- Wash down capability

#### FEATURES

- Keyed hollow shaft (metric and inch series)
- High and premium efficiency motors (IE2, IE3)
- Wide range of feedback devices (incremental and absolute encoders)



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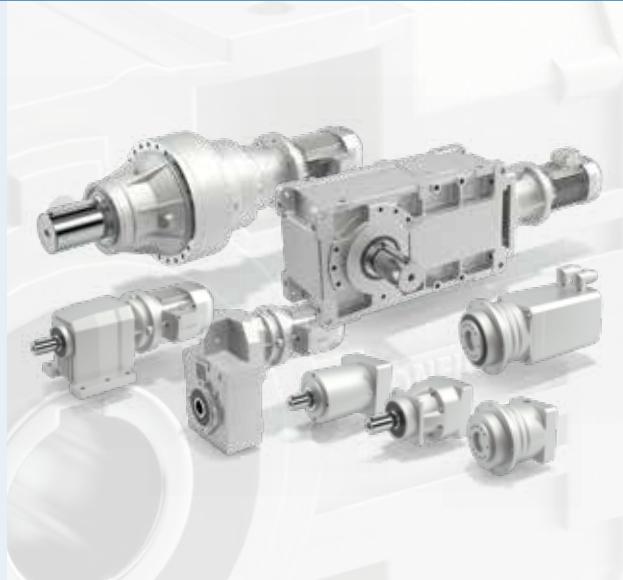
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- Diagnosis and setup via optional keypad or PC software

4

## COMPACTORS

BALERS MACHINE

We offer versatile, robust and energy-efficient solutions that enhance compactor requirements. High dynamic response and energy savings are fundamental features when you choose Bonfiglioli. Furthermore, the cost effective and extended service intervals reward a very low cost of ownership. And full integration with Bonfiglioli drives offers a complete package solution.



## HEAVY DUTY

### GEARBOXES & GEARED MOTORS

#### Heavy duty parallel/right angle shaft geared motors **HDP/HDO Series**

- **Torque range:** 5,190 to 210,000 Nm
- **Gear ratios:** 5.6 to 500

#### Planetary geared motors | **300 Series**

- **Torque range:** 1,250 to 1,287,000 Nm
- **Gear ratios:** 3.4 ... 2,916

## LIGHT DUTY

#### Worm geared motors | **W/VF Series**

- **Torque range:** 13 to 7,100 Nm
- **Gear ratios:** 5.6 to 500

#### Helical geared motors | **C Series**

- **Torque range:** 45 to 12,000 Nm
- **Gear ratios:** 5.6 to 500

#### Bevel-helical geared motors | **A Series**

- **Torque range:** 100 to 14,000 Nm
- **Gear ratios:** 5.6 to 500

#### Shaft-mounted geared motors | **F Series**

- **Torque range:** 140 to 14,000 Nm
- **Gear ratios:** 5.6 to 500

## SERVO

#### Precision planetary servo geared motors **TQ, TQK, TQF, TR, MP, LC, LCK, SL, KR Series**

- **Torque range:** up to 1,000 Nm
- **Gear ratios:** up to 1,000
- **Backlash:** lower than 2 and 17 arcmin

## MOTORS

#### Asynchronous IEC motors | **BN, BE, BX Series**

#### Asynchronous compact motors | **MN, ME, MX series**

A complete range of AC motors, meeting worldwide MEPS (e.g. IE3)

**IE3**

- **Power range:** 0.06 to 355 kW

- **Poles:** from 2 to 8 and multiple poles

#### Asynchronous motors | **BN, BE, BX, M, ME, MX Series**

A complete range of AC motors, meeting worldwide MEPS (e.g. IE3)

**IE3**

- **Power range:** 0.06 to 355 kW

- **Poles:** from 2 to 8 and multiple poles

#### Synchronous motors | **BMD Series**

- **Stall torque:** 0.85 to 60 Nm
- **Rated speed:** from 1,600 to 6,000 min<sup>-1</sup>
- **Power supply:** 230, 400 VAC

#### Synchronous reluctance motors | **BSR Series**

Two different versions for different needs: High efficiency IE4 and high output

**IE4**

- **Power range:** 0.37 to 18.5 kW

#### Synchronous motors | **BMD, BCR Series**

- **Stall torque BMD:** 0.85 to 60 Nm
- **Stall torque BCR:** 0.2 to 115 Nm
- **Rated speed BMD:** from 1,600 to 6,000 min<sup>-1</sup>
- **Rated speed BCR:** from 2,000 to 4,500 min<sup>-1</sup>
- **Power supply:** 230, 400 VAC

#### Synchronous motors with integrated drives | **iBMD Series**

- **Stall torque:** 2.7 to 36 Nm
- **Rated speed:** 3,000 min<sup>-1</sup>
- **Power supply:** 560 VDC



## INVERTERS

### HEAVY DUTY

#### Cabinet solution | Active Cube 8 IP54

- **Power range:** 200 up to 1,200 kW
- **Voltage:** 400 V, 525V, 690V

#### Premium inverter | Active Cube Series

- **ACU210:** 0.25 - 9.2 kW / 1- or 3-phase
- **ACU410\*:** 0.25 - 400 kW / 3-phase
- **ACU510\*:** 160 - 400 kW / 3-phase
- **ACU610\*:** 0.25 - 400 kW / 3-phase

### LIGHT DUTY

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- **ACU610\*:** 0.25 - 400 kW / 3-phase

#### Smart inverter | Agile Series

- **AGL202:** 0.12 - 3 kW / 1-phase | 0.25 - 7.5 kW / 3-phase
- **AGL402:** 0.25 - 11 kW / 3-phase

#### Compact inverter | S2U Series

- **S2U230S--(F) IP66:** 0.25 - 400 kW / 3-phase

### SERVO

#### Servo inverter | ANG Series

- **ANG210:** 0.25 - 9.2 kW / 1- or 3-phase
- **ANG410\*:** 0.25 - 400 kW / 3-phase
- **ACU510\*:** 160 - 400 kW / 3-phase
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- **AGL402:** 0.25 - 11 kW / 3-phase

\* up to 1200 kW with parallel connection

## HMI

#### Human Machine Interfaces | BMI Series

- 2 display sizes 7", 10.1"
- True flat front panel in IP65
- High resolution 480x272 up to 1,024x600 pixels

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# OUR GLOBAL PRESENCE

Thanks to an international network of closely interconnected commercial and production sites, we can guarantee the same high standards of Bonfiglioli quality anywhere at any given time. We know that our direct presence in local markets is the key to long-lasting success, so our family includes 17 production sites, 23 commercial sites and more than 550 distributors around the world.

Our organization is always close by, offering complete and efficient solutions and supporting our customers with dedicated services, co-engineering and after-sales assistance.



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We have a relentless commitment to excellence, innovation & sustainability. Our team creates, distributes and services world-class power transmission & drive solutions to keep the world in motion.

#### **HEADQUARTERS**

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